

REMARKS

Applicant requests that claims 22-24 and 27 be canceled and claims 16, 17, 19 and 26 be amended. This leaves only claims 16-19, 21, and 25-26 in the application. Claim 25 was allowed while the other claims were rejected on two newly cited patents. Specifically, claims 16 and 21 were rejected on Maloberti (4,906,137) while all rejected claims 16-19, 21 and 26 were rejected on Brown (5,427,046).

Independent claim 16, as amended, describes the vessel or other floating structure (12, Fig. 1) as floating at the sea surface, and describes the upper portion (54) of the riser support extending at least 20% of the sea height above the sea floor (mentioned on page 5, line 21 of the specification) and at least 10 meters (30 feet) above the sea floor (mentioned on pages 5, line 20). This reduces the length of expensive flexible hose that is required (mentioned on page 5, lines 25-26).

Maloberti's Fig. 7 shows a seafloor structure that supports a hose part 3d in a curve of controlled radius of curvature, so the free hose part 3d extends in a gentle curve to the vessel. Maloberti's Fig. 1 shows the collar 6 lying at a height of 20% of the sea height. His Fig. 4 shows a tall structure of a height 33 times its hose diameter. Fig. 7 shows a shorter structure of a height that is 12 times its hose diameter, which implies a structure height in Fig. 7 that is about 7% of the sea height. He does not give dimensions and therefore does not suggest a height of at least 10 meters. Maloberti is using his sea structure to bend the bottom of his conduit to a desired curvature, and does not indicate that the bent bottom portion has a large height (e.g. at least 15% of sea height) to save hose (he uses a tight bend rather than fixed piping along the sea floor structure, to save hose).

Brown shows a seafloor riser support 9 having a height (measured to be 9mm) that is 10.3% of the height of the sea (87.5mm). He does not give dimensions so he does not suggest a height of at least 10 meters. He is using his seafloor riser support to assure that there is a catenary 7 whose lowest point 11

is always above the sea floor. He does not suggest that he is trying to save length of hose by having a seafloor riser support that extends to a large height (e.g. at least 15% of sea height).

Neither reference mentions or suggests a seafloor riser support height of at least 20% of sea height and at least 10 meters, to reduce the required length of hose. In the Examiner's Advisory Action, he pointed out that applicant's argument that Maloberti shows a height of 7% and Brown 10.3% were determined by using the scale of the patent drawings which would not be accurate. While using the scale to estimate the height of 7% and 10.3% would not be accurate, they certainly show a height of much less than 20% of the sea height. Also, neither reference suggests such a tall seafloor structure of at least 10 meters (30 feet) to reduce the required length of flexible conduit. Applicant points out (page 2, lines 23-24) that a flexible conduit is more expensive than a rigid pipe, so such reduction in flexible conduit length is valuable.

In the Examiner's Advisory Action, he also points out that the height of the sea could vary at different installation heights. If the installation heights in the references were less than one-half of what is shown, it is possible that the references would use different systems rather than use sea floor structures of less than 10 meters height. The crucial difference between applicant and the references is that applicant uses a tall sea floor structure to reduce the required length of expensive flexible hose, (but not so tall that the bottom of a ship will hit the structure). The references use seafloor structures only tall enough to accomplish other goals. In Maloberti, his goal is to bend the bottom of his conduit to a desired curvature and in Brown, his goal is to assure that the bottom of his catenary does not drag on the sea floor.

Independent claim 26 has been amended to describe the height of the riser upper portion as at least 30% of sea height and at least 10 meters (30 feet) high. For the reasons discussed in connection with claim 16, applicant believes that claim 26 also should be allowed.

In view of the above, entrance of the amendment and reconsideration of the application is courteously requested.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "L. D. Rosen". The signature is fluid and cursive, with a large initial "L" and "D".

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